Week Ahead Weather January 10, 2022

Hi Folks,

Over the past week, precipitation was focused on the North Coast and northern Sierra Nevada/Southern Cascade mountains. As seen in figure 1, the map of observed precipitation from the California Nevada River Forecast Center (CNRFC), the coastal regions north of Point Arena and the mountains north of Redding had the most precipitation exceeding five inches in places.

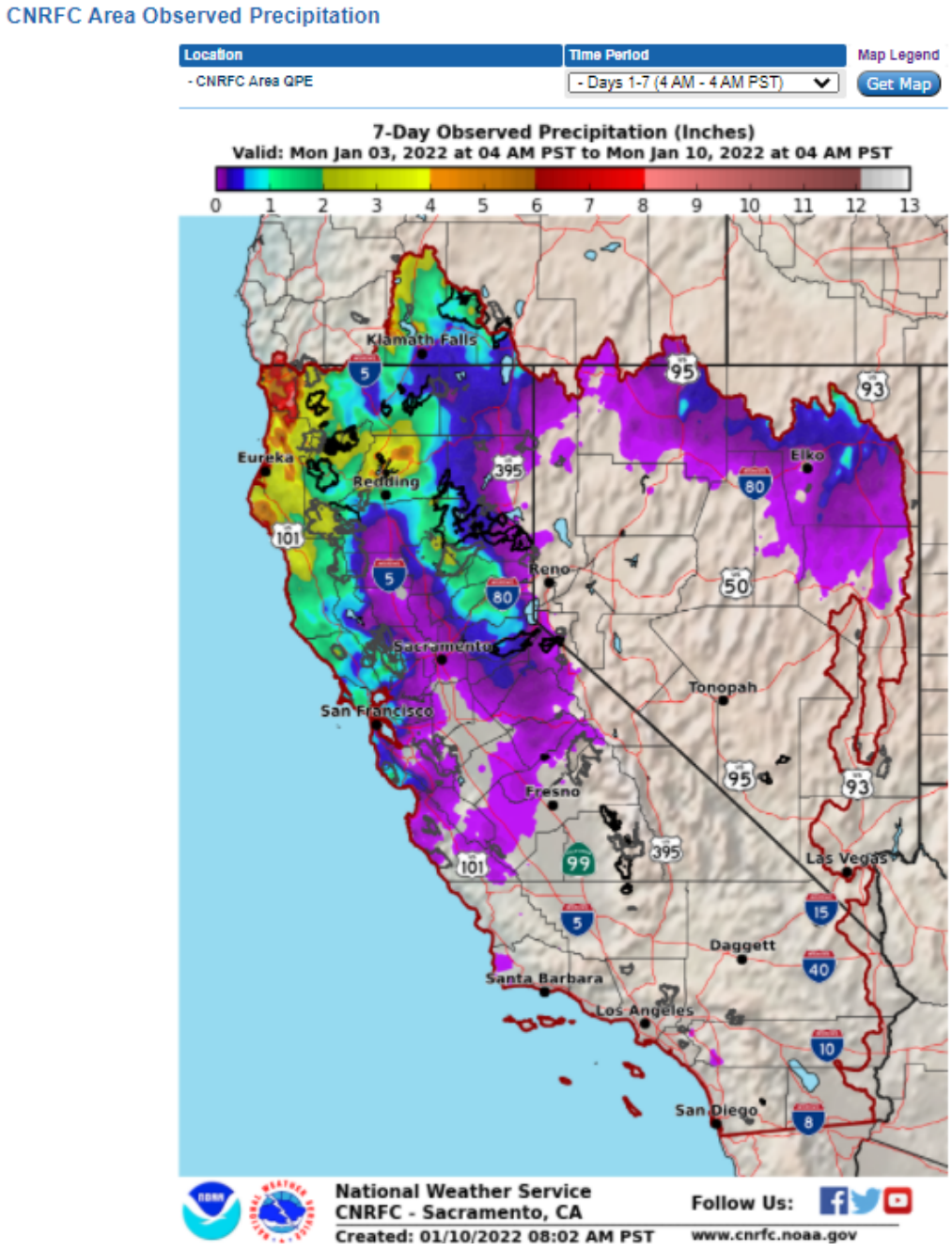



Figure 1. CNRFC map of observed precipitation over the past seven days.

Looking ahead, only limited scattered showers are forecast in the areas shown in Figure 2 which is the CNRFC map of forecast precipitation for the next six days.

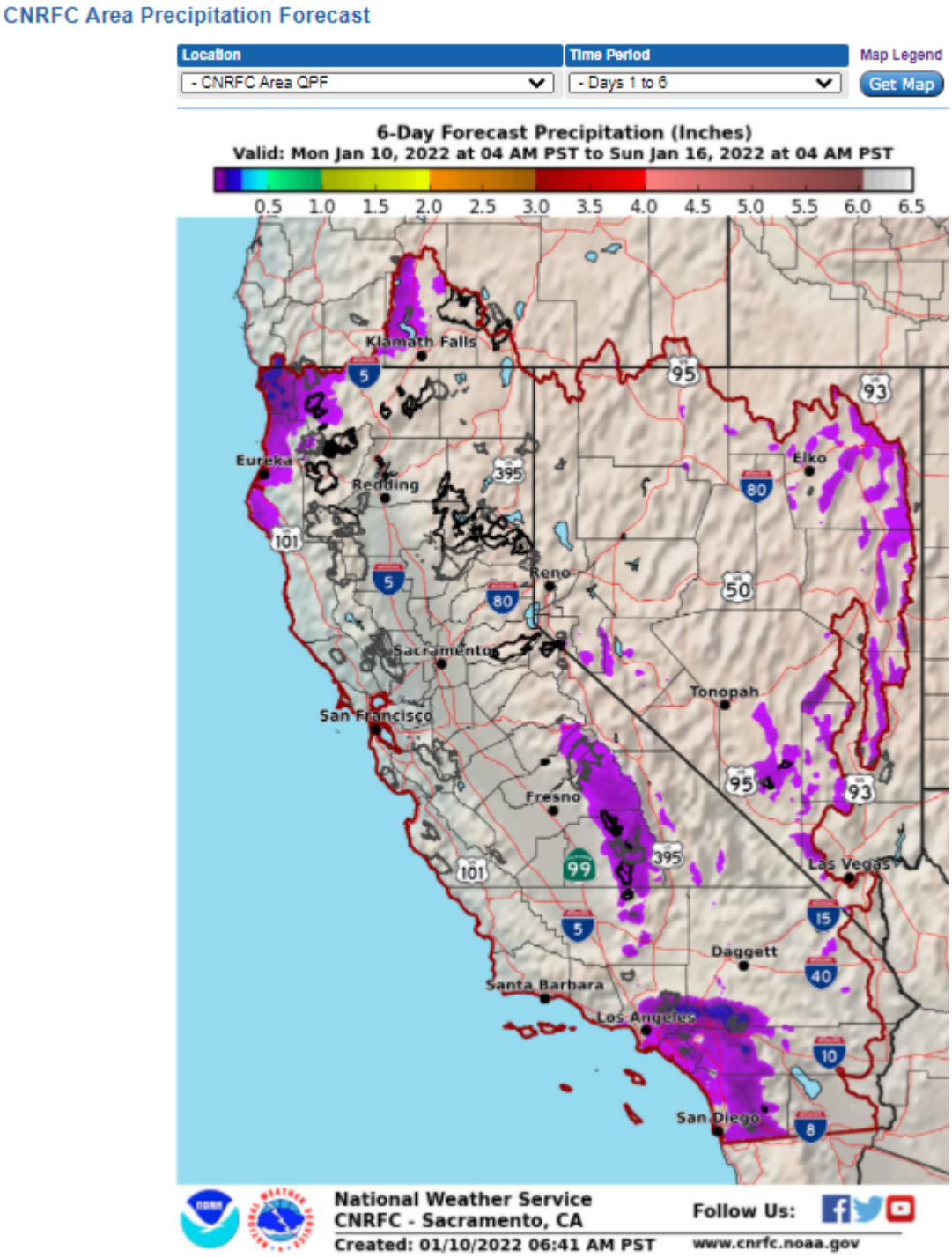



Figure 2. CNRFC map of forecast precipitation for the next six days.

Looking at the atmospheric river (AR) landfall tool from the Scripps' Institution of Oceanography's Center For Western Weather and Water Extremes, there is no indication of AR activity impacting California for the second week of the forecast (1/17/22 to 1/26/22) denoted by the light blue color. This

suggests that January's precipitation totals are likely to be drier than average. This would be consistent with the seasonal outlook suggesting a drier than average January through March.

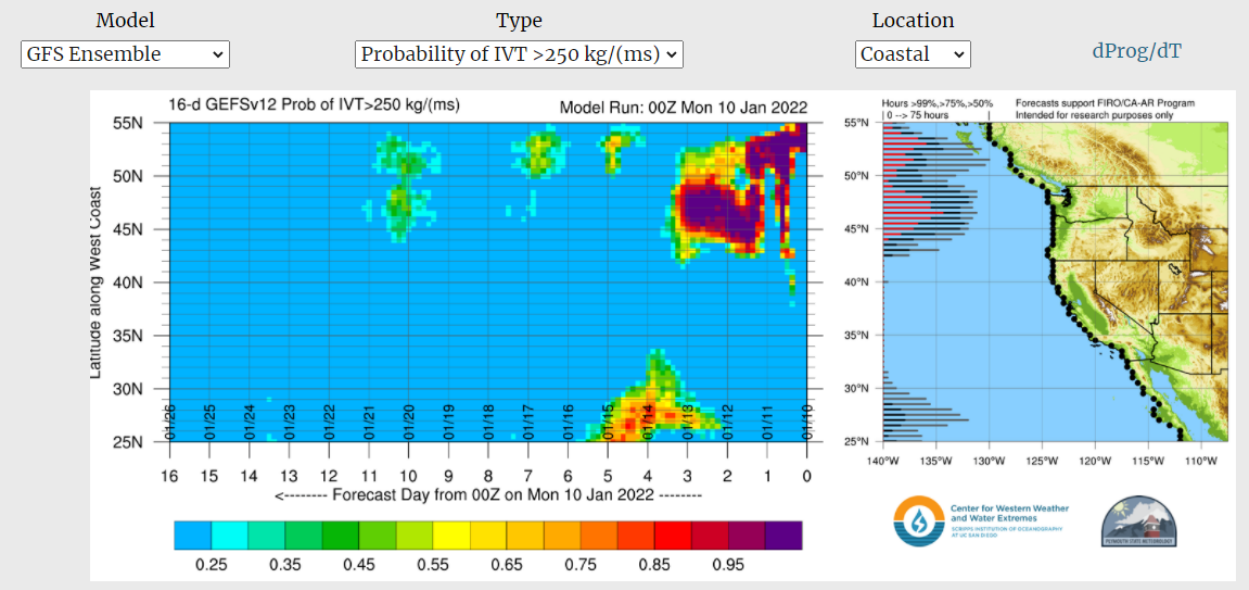
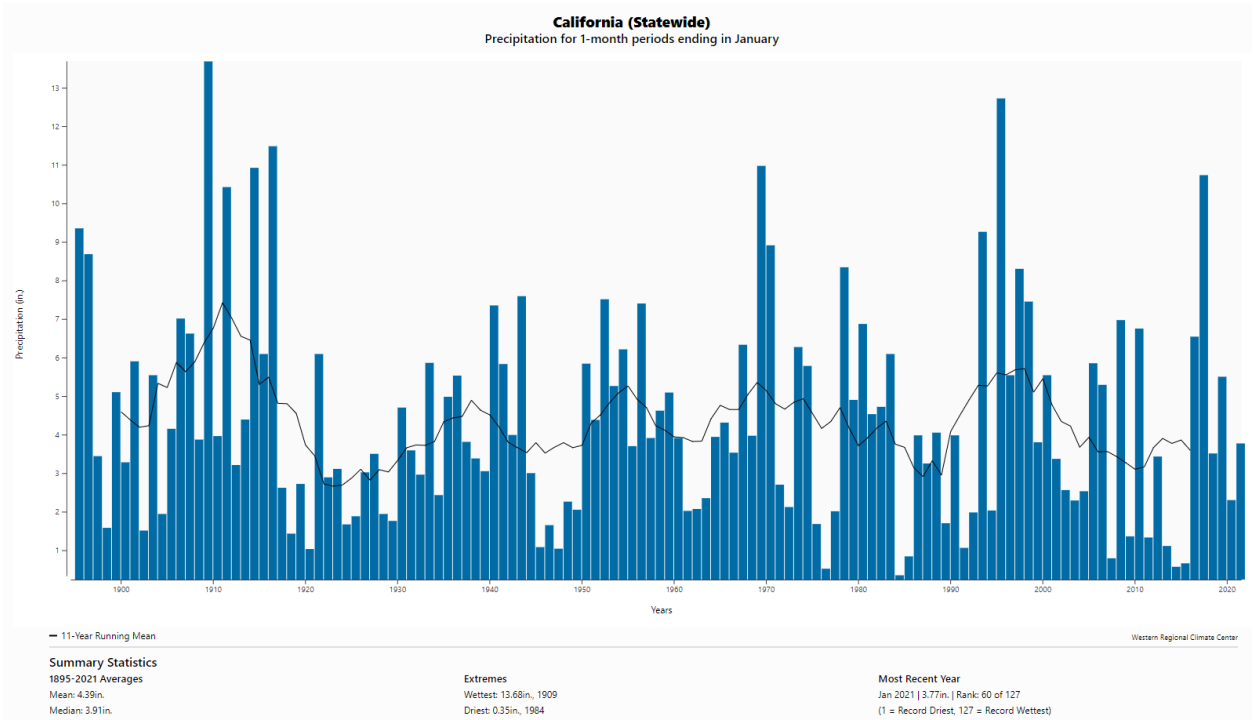



Figure 3. CW3E AR landfall tool showing a lack of AR activity for California through 1/26/22.

To explore the role of January precipitation in water year outcomes, we can use the California Climate Tracker, a product from Western Region Climate Center (https://wrcc.dri.edu/my/climate/tracker/CA). The graphics in Figure 4 show the time series from 1896 to 2021 of (a) January statewide precipitation and (b) water year precipitation. Average statewide precipitation for January is 4.39 inches which is 18% of an average statewide water year precipitation total of 23.47 inches. Missing a part of almost 1/5 of a water year's precipitation can lead to drier than average water years. Looking at the data, there are 76 years out of 126 years of record with a drier than average January of which 32 recorded less than 50% of average for January. Of the 76 drier than average Januarys, 13 still recorded an above average water year. Of the 32 Januarys with less than 50% of average precipitation 3 years still recorded above average precipitation for the water year. We will look to the beginning of February to verify how the dry forecast for January 2022 verifies. One thing to note is that this analysis relies on historical data to generate the statistics of relationships between a dry January and a dry water year. A recent observation is increased within year variability to go along with our already large year-to-year variability. The larger variability challenges relationships built on historical data which in itself can impact water management. Enjoy the sunshine this week and I will provide a new outlook next week.



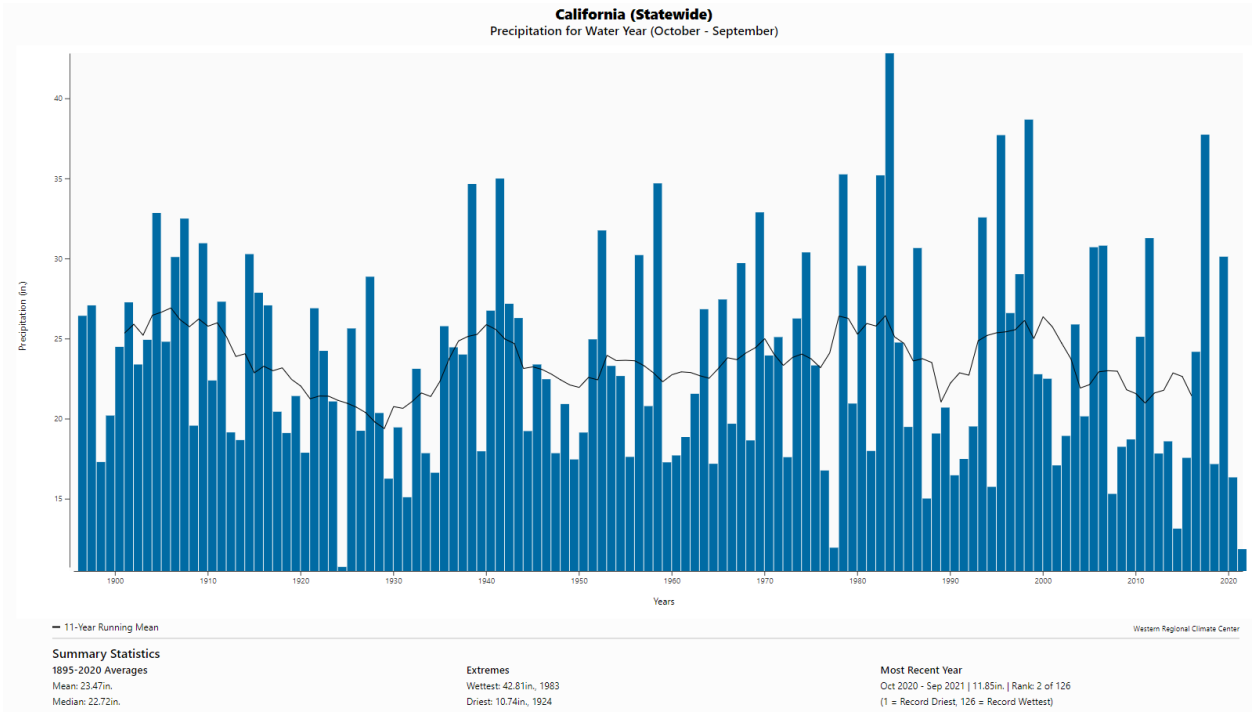




Figure 4 (a) January time series of statewide precipitation and (b) water year time series of statewide precipitation from Western Region Climate Center's California Climate Tracker.